

## SYSTEM AND METHOD FOR DETECTING COLLISIONS IN A SHARED COMMUNICATIONS MEDIUM

### ABSTRACT OF THE DISCLOSURE

A system for detecting collisions in a shared communications medium, such as a TDMA medium, includes a receive path adapted to generate a first intermediate signal, a second intermediate signal, and a data symbol sequence from an input signal. A preamble detection module generates a correlation metric from the first intermediate signal. A power measurement module generates a power indication signal from the second intermediate signal. A noise measurement module generates a noise indication signal from the second intermediate signal and the data symbol sequence. A processing module is adapted to characterize the input signal as a collision for certain values of correlation metric, power indication signal, and noise indication signal.

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